21.6000,

41162
S/169/62/000/009/063/120
D228/D307

AUTHOR: Matveyev, A. V.

TITLE: Screening power of the forest cover during aerial
            prospecting for radioactive ores

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 43-44,
            abstract 9A287 (In collection: Vopr. rugn. geofiz.,
            no. 3, M., Gosgeoltekhizdat, 1961, 185-190)

TEXT: An estimate is given of the forest cover's screening power
when a local active area's γ-radiation intensity is being measured.
It was established that the screening of a local γ-field by the
forest cover decreases as the flight height increases. A forest's
screening influence becomes more substantial when the aircraft
passes along the edge of a local anomalous area. By means of air-
craft measurements of the radiation intensity of two identical
areas -- one was situated in a forest massif, the other in an open
field -- it was established that the screening factor amounts to
0.85 - 0.9. /Abstracter's note: Complete translation._7

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MATVEYEV, A.V.

Aerial prospecting in wooded regions. Atom. energ. 11 no.6:550-
552 D '61.
(Aeronautics in geology)   (MIRA 14:11)

MATVEYEV, A.V., inzhener.

Impulse safety device for high-pressure and superpressure boilers.
Energomashinostroenie no.11:23-24 N '56.   (MLRA 9:12)
            (Boilers--Safety appliances)

MATVEYEV, A.V., inzhener.

New design for control valves. Elek. sta. 28 no.5:67-68 My '57.
(Boilers)
(MIRA 10:6)

MATVEYEV, A.V., inzh.

Experience in building and operating control and feeding valves for boilers of superhigh parameters. Elek.sta. 28 no.10:16-18 '57. (MIRA 10:11)

(Boilers--Safety appliances)

MATVEYEV, A.V.; SMIRNOV, V.A.; VAVILIN, L.N.; YEVDOKIMOV, Yu.D.;
KORNILOV, F.M.

Experience in using the method of reducing local aerogamma
anomalies to the level of the earth's surface for aeroradiometric
prospecting. Vop. rud. geofiz. no.5:76-87 '65.

(MIRA 18:9)

MATVEYEV, A.V.

Nomograms for computing concentrations of radioactive elements
in rocks. Vop. rud. geofiz. no.5:131-133 '65.   (MIRA 18:9)

BELOKON', N.I.· BIKCHENTAY, R.N.; MATVEYEV, A.V.; PORSHAKOV,B.P.;
TOLYBEKOV, B.S.; BARMIN, S.F.; MOROZ, A.P.

Field testing the GT-700-5 gas turbine installation and its
recuperator. Gaz.prom. 10 no.11:16-24 '65.

(MIRA 19:1)

MIKLASHEVSKIY, V.Ye., kand.med.nauk; MATVEYEV, A.Ya.

3rd joint scientific and methodological conference dedicated to
the memory of Professor S.I.Chechulin. Arkh. pat. 27 no.2:91-94
'65.
(MIRA 18:5)

MATVEYEV, A. YA.

27885. MATVEYEV, A. YA. — Analiz raboty turkmenskogo respublikanskogo gospitalya dlya invalidov otechestvennoy royny za 1947 god. Trudy pervoy Nauch. Mezhresp. Konf-tsii po lecheniyu invalidov Otechestv. Voyny v Sred. Azii. Tashkent, 1949, S. 43-49.

SO: Letopis' Zhurnal'nykh Statey, Vol. 57, 1949.

PISARCHIK, G.; CHERENKOV, Ye.; MATVEYEV, B.

In the struggle for the title of the enterprise of communist labor.
Muk.-elev. prom. 29 no.11:5-6 N '63.   (MIRA 17:2)

1. Starshiy agronom Upravleniya elevatornoskladskogo khozyaystva Mi-
nisterstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov
UkrSSR (for Pisarchik). 2. Machal'nik Nikolayevskogo upravleniya khlebo-
produktov (for Cherenkov). 3. Zaveduyushchiy otdelom truda i zarabotnoy
platy Vinnitskogo oblastnogo komiteta professional'nogo soyuza rabochikh
i sluzhashchikh sel'skogo khozyaystva i zagotovok (for Matveyev).

MATVEYEV, B.A. (Baku); ROGINSKIY, G.I. (Baku)

Late complications following antibiotic therapy of suppurative
peritonitis. Khirurgiia no.5:63-65 My '56.   (MLRA 9:9)
        (PERITONITIS, therapy,
            antibiotics, compl. (Rus))
        (ANTIBIOTICS, therapeutic use,
            peritonitis, compl. (Rus))

MATVEYEV, B.A., polkovnik meditsinskoy sluzhby

On temporary ligation and temporary prosthesis in wounds of
the blood vessels of the extremities. Voen.-med.zhur. no.7:
36-38 Jl '59.   (MIRA 12:11)
          (BLOOD VESSELS wds & inj)
          (EXTREMITIES blood supply)

MATVEYEV, B.A., polkovnik meditsinskoy slushby

Phenomenon of lock spasm in wounds of the hand. Voen.-med.zhur.
no.3:72 Mr '61.   (MIRA 14:7)
        (HAND—WOUNDS AND INJURIES)   (SPASMS)

MATVEYEV, B.A., polkovnik meditsinskoy sluzhby

New type of fixation for fractures of the leg. Voen.-med.zhur.
no.3:82-83 Mr '61.   (MIRA 14:7)
                              (FRACTURES)

MATVEYEV, B.A., polkovnik meditsinskoy sluzhby; SLOVETSKIY, G.G., podpolkovnik meditsinskoy sluzhby, kand.med.nauk

Indications for metallic osteosynthesis in combined injuries.
Voen.-med. zhur. no.8:68-69 Ag '61.   (MIRA 15:2)
            (INTERNAL FIXATION IN FRACTURES)

MATVEYEV, B. D.

"Investigation of the Process of Briquetting Peat With 20-25% Moisture
Content Without Heat Drying (Pneumopeat)." Sub 26 Jun 51, Moscow Peat Inst

Dissertations presented for science and engineering degrees in
Moscow during 1951.

SO: Sum. No. 480, 9 May 55

MATVEYEV, B.D

163. THEORY OF BRIQUETTING PEAT. Matveyev, B. D. (Torf. Prom.
(Peat Ind.), May 1951, vol. 28, 29-31; abstr. in Chem. Zbl., 1951,
vol. 122, (11), 2681). From the mechanical strength/water content curve
of the peat it is to be assumed that the mechanical strength maximum of the
peat briquette lies at 14-15% water content, whilst the hygroscopic
moisture content can reach 25-30%. In briquetting peat with 25% moisture
up to 50°C the absorbed water owing to saturation of the hydrogen bonds
acts as a binder. The optimal moisture in briquetting corresponds to a
monomolecular layer of absorbed water between the particles of peat.

KHCKHLOV, I.M., kand.tekhn.nauk; MATVEYEV, B.D., kand.tekhn.nauk

Rapid method for determining moisture content of reclaimed textile materials and paper stock. Trudy NITKHI no.1:81-89 '62.
(MIRA 17:4)

MATVEYEV, B. D

MATVEYEV, B.D.

Drying sweet corn in a conveyor type steam-heated tunnel dryer.
Kons.i ov.prom. 12 no.8:33-35 Ag '57.   (MIRA 10:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i
ovoshchesushil'noy promyshlennosti.
          (Corn (Maize)--Drying)   (Drying apparatus)

MATVEYEV, B.D.

Mechanical cleaning of onions in the Izmail Canning Combine.
Kons. i ov. prom. 13 no.9:17-18 S '58.   (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i
ovoshchesushil'noy promyshlennosti.
                    (Onions)

GENIN, S.A., kand.tekhn.nauk; ALFUTOVA, Ye.P., starshiy nauchnyy sotrudnik; BUGROVA, L.N., mladshiy nauchnyy sotrudnik; MATVEYEV, B.D., kand. tekhn.nauk; MOROZENSKIY, L.N., starshiy nauchnyy sotrudnik

Technological treatment of potatoes and root crops by the steam-heating method. Trudy VNIIKOP no.9:3-25 '59.   (MIRA 14:1)
(Vegetables—Drying)

MATVEYEV, B.D.

Apparatus for determining the permeability to water and soaking
characteristics of shoe materials under dynamic conditions.
Kozh.-obuv. prom. 7 no.6:27-29 Je '65.   (MIRA 18:8)

MATVEYEV, Boris Georgiyevich

[Organization of the planning of the national economy of the
U.S.S.R.; a lecture] Organizatsiia planirovaniia narodnogo
khoziaistva SSSR; lektsiia. Moskva, Izd-vo VTSh i AON pri
TsK KPSS, 1959. 47 p.

(MIRA 13:6)

(Russia--Economic policy)

MATVEYEV, Boris Georgiyevich; KNOROD, S., red.; MUKHIN, Yu., tekhn. red.

[How to increase labor productivity in an enterprise] Kak povysit' proizvoditel'nost' truda na predpriiatii. Moskva, Gos. izd-vo polit. lit-ry, 1961. 39 p.   (MIRA 14:7)
                    (Labor productivity)

MATVEYEV, Boris Georgiyevich; KOKOSHKO, A.G., red.

[Labor productivity in U.S.S.R. industry and ways of increasing it] Proizvoditel'nost' truda v promyshlennosti SSSR i puti ee povysheniia. Moskva, Izd-vo VPSh i AON pri TsK KPSS, 1961.
51 p.   (MIRA 14:9)
              (Labor productivity)

MATVEYEV, Boris Georgiyevich; MOROZOV, Petr Tarasovich; SOSKIN, A., red.

[Economics of industrial enterprises; visual aid] Ekonomika pro-
myshlennykh predpriiatii, nagliadnoe posobie. Moskva, Gos. izd-
vo polit. lit-ry, 1961. 78 p.   (MIRA 14:8)
        (Russia—Industries—Audio-visual aids)

MATVEYEV, Boris Georgiyevich

[Productivity of labor and industry in the U.S.S.R. and
ways to increase it] Proizvoditel'nost' truda i promysh-
lennosti SSSR i puti ee povysheniia. Moskva, VPSh i AON,
1961. 51 p.   (MIRA 17:9)

PHASE I BOOK EXPLOITATION   SOV/3759

Matveyev, Boris Ivanovich, and Fedor Vasil'yevich Zhuravlev

Tekhnologiya pressovaniya profiley peremennogo i periodicheskogo secheniy iz legkikh splavov (Extrusion of Light Metal Alloy Shapes With Variable and Periodic Cross Section) Moscow, Oborongiz, 1959. 126 p. Errata slip inserted. 2,250 copies printed.

Eds.: V. V. Zholobov Candidate of Technical Sciences, and T. M. Kunyavskaya; Tech. Ed.: V. I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This book may be of interest to engineers engaged in extrusion of metals or designing structures using shaped bar stock.

COVERAGE: Results of studies of production methods for periodic and variable cross-section stock by extrusion are presented. A description is given of methods for the production of hollow shapes by extrusion. Materials used, and said to be of importance in modern machine design, were aluminum, aluminum alloys, and other light metals. Physical properties of extruded periodic

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Extrusion of Light Metal(Cont.)   SOV/3739

and variable cross-section shapes are listed. Contributions to the develop-
ment of preaworking of periodic and variable cross-section stock were
made by the following Soviet personalities: B. I. Matveyev, Candidate of
Technical Sciences, Engineers S. B. Pevzner, L. G. Ogurchikov, Ye. B. Zhurav-
skiy with the assistance of V. A. Limanova, Candidate of Technical Sciences,
Engineers E. M. Nepomnyashchyy, R. L. Barbanel', Yu. A. Ryndenkov, P. D.
Belovidov, V. A. Kurbatov, F. V. Zhuravlev, V. I. Peygin, I. S. Shneerov,
V. N. Pechentsov, I. V. Yegorov, V. P. Lebedev, M. I. Dzyubenko, M. V. Kopy-
tova, K. I. Osipova, I. N. Fridlander, Doctor of Technical Sciences, and
Engineer N. M. Edel'man. The following contributed to the practical
adoption of these methods: S. A. Vigderchik, I. L. Golovin, V. M. Gil',
A. G. Musatov, A. N. Yegorov, and V. N. Stepanov. Engineers S. B. Pevzner,
L. G. Ogurchikov, and E. B. Zhuravskiy also contributed to Part 1 of Chapter
III, and to Part 3 of Ch. IV. There are 15 references: 14 Soviet and 1
English.

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PHASE I BOOK EXPLOITATION   SOV/5685

Fridlyander, I. N., Doctor of Technical Sciences, and B. I.
Matveyev, Candidate of Technical Sciences, eds.

Teploprochnyy material iz spechennoy alyuminiyevoy pudry [SAP]; sbornik
state/ (Heat-Resistant Material From Baked Aluminum Powder
[SAP]; Collection of Articles) Moscow, Oborongiz, 1961. 122 p.
Errata slip inserted. 3,550 copies printed.

Reviewers: M. F. Bazhenov, Engineer, and M. Yu. Bal'shin,
Candidate of Technical Sciences; Ed.: M. A. Bochvar, Engineer;
Ed. of Publishing House: S. I. Vinogradskaya; Tech. Ed.:
V. I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE : This collection of articles is intended for scientific
workers and engineers in the institute and plant laboratories
of the metallurgical and machine-building industry; it may also
be useful to instructors and advanced students.

COVERAGE: The 12 articles contain the results of research on the
structure, properties,and manufacture of semifinished products

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Heat-Resistant Material From (Cont.)   SOV/5685

from sintered aluminum powder. The technology for the manu-
facture of aluminum powder and briquets is described as are
sintering processes, and pressing, rolling, drawing, and
sheet-stamping methods. The dependence of the properties of
semifinished products on the aluminum-oxide content of the
powder, on the degree of hot and cold deformation, and on the
stresses of pressing is investigated. Also investigated are
the mechanical and corrosive properties of semifinished pro-
ducts, the mechanism of hardening of sintered aluminum powder,
the reasons for blister formation, and the possibility of
recrystallization. Data on sintered aluminum alloys are included.
No personalities are mentioned. References in the form of
footnotes accompany the articles.

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and Properties of Pressed Articles From SAP [Sintered Aluminur   5
Powder]

Stepanova, M. G., G. P. Zenkov, Ye. M. Lekarenko, and L. A.   17
Sarul'. Aluminum Powder for SAP
    The work was carried out with the participation of G. N.
    Pokrovskaya, Chief of TsZL; R. V. Nesterenko, Acting
    Chief of the Shop; and Engineers L. I. Kibitova, N. D.
    Chumak, and N. I. Kolobnev.

Matveyev, B. I., M. G. Stepanova, and N. I. Kolobnev. Effect
of Specific Pressure in Pressing on Properties of Semifinish-   30
ed Products From SAP

Matveyev, B. I., S. I. Nomofilov, and V. A. Shelamov. Press-   36
ing of Semifinished Products From SAP
    The work was carried out with the participation of Engi-
    neers A. V. Fedotova and I. R. Khanova, and Senior Tech-
    nician L. S. Perevyazkin.

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Heat-Resistant Material From (Cont.)   SOV/5685

Murzov, A. I. [Candidate of Technical Sciences], S. I.
Nomofilov [Engineer], and V. A. Shelamov [Engineer]. Rolling   50
of Sheets From SAP
    The work was carried out with the participation of Engi-
neer R. F. Filimonova and Technicians V. I. Sverlov and
O. A. Kolosov.

Matveyev, B. I., N. A. Davydova, and I. R. Khanova. Study of
the Effect of the Degree of Deformation on the Properties and
Structure of Pressed Semifinished Products and Cold-Rolled   59
Sheets From SAP
    The work was carried out with the participation of L. S.
Perevyazkin and O. A. Kolosov.

Davydov, Yu. P., and G. V. Pokrovskiy. Stamping of Sheets From   66
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Litvintsev, A. I., and E. P. Belova. X-Ray Diffraction Study of   77
the Oxide Phase in SAP

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Heat-Resistant Material From (Cont.) SOV/5685

AVAILABLE: Library of Congress

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31221
S/123/61/000/020/010/035
A004/A101

l.l 600

AUTHORS: Mateveyev, B. I., Davydova, N. A., Khanova, I. R.

TITLE: Investigating the effect of the degree of deformation on the proper-
ties and structure of pressed semifinished products and cold-rolled
sheet from sintered aluminum powder (SAP)

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 20, 1961, 17-18,
abstract 20A128 (V sb. "Teploprochn. material iz spechen. alyumin.
pudry [SAP]". Moscow, Oborongiz, 1961, 59-65)

TEXT: The authors studied the effect of the degree of deformation on the
mechanical properties of pressed bars from AПC-2 (APS-2)(14.5% Al_2O_3) grade
aluminum powder. The effect of the degree of cold deformation on the sheet
structure was studied on the CAП-1 (SAP-1) grade containing 10% Al_2O_3. It was
found that, the degree of deformation being raised from 50 to 80%, σ_b and δ of
the bars pressed at 400°C, increase, while δ_b insignificantly decreases if the
degree of deformation exceeds 80%. An analogous regularity can be observed when
the specimens are tested at 500°C. The maximum degree of cold deformation of
sheets containing 10% Al_2O_3 amounts to 55 - 65%; a further increase of the

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S/123/61/000/020/030/035
A004/A101

Investigating the effect of the degree ...

degree of deformation leads to a sharp drop of the mechanical properties both at room temperature and at high temperatures.

[Abstracter's note: Complete translation]

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S/137/62/00C/005/105/150
A006/A101

AUTHORS: Matveyev, B. I., Kopytova, M. V.

TITLE: The effect of the manganese content, the temperature and degree of deformation upon the mechanical properties of large-size B 95 (V95) sections

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 71 - 72, abstract 5I434 (V sb. "Deformiruyemyye alyumin. splavy", Moscow, Oborongiz, 1961, 76 - 84)

TEXT: Grade V95 alloys containing Mn within 0.1; 0.25; 0.35; 0.5%, and a constant amount of Cr within 0.15%, were investigated. In the extremal direction, σ_b and σ_s change practically little at Mn 0.12 - 0.52%, 440 - 360°C extrusion temperature and 75 - 90% deformation degree. In lengthwise direction δ changes to a higher degree, depending on the Mn content, and the temperature and degree of deformation. An increase of the Mn content from 0.12 to 0.52% entails at all extrusion temperatures a decrease in δ in lengthwise direction. In the transverse direction σ_b and σ_s change little depending on the Mn content, the

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The effect of the...

temperature and degree of deformation; δ in the transverse direction changes considerably, depending on the Mn content, temperature and degree of deformation. An increase of the Mn content in the V95 alloy from 0.12 to 0.52% during extrusion of the sections directly from the ingot, reduces δ in the transverse direction by a factor of 2 at $440 - 400^{\circ}C$ extrusion temperature, and almost by a factor of 3 at $360^{\circ}C$ extrusion temperature.

T. Rumyantseva

[Abstracter's note: Complete translation]

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S/193/62/000/009/001/002
A004/A101

AUTHORS: Reybakh, M. S., Tsirlin, A. M., Kleshchevnikova, S. I., Volkov, V. L., Matveyev, B. I., Kazakova, N. V.

TITLE: Film-type apparatus for the continuous triethoxysilane synthesis

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 9, 1962, 21 - 23

TEXT: This new apparatus for the continuous triethoxysilane synthesis, in which the reaction and desorption zones are separated, has been developed by an organization of the Gosudarstvenny komitet po khimii (State Committee on Chemistry) at the Council of Ministers of the USSR. The apparatus is a film-type mass-exchange column, whose design and operation are described. A table gives comparative data on the triethoxysilane synthesis in film-type and bubbler apparatus. The raw material consumption in the former is only half of the latter, while the output of the film-type apparatus is by 25% higher than that of the bubbler type. Comparing the technical and design data of the continuous film-type apparatus with those of the periodic bubbler apparatus, it is shown that the working volume and hydraulic resistance of the film-type apparatus are considerably lower than

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Film-type apparatus for the...

S/191/62/000/009/001/002
A004/A101

those of the bubbler apparatus, while the specific surface of heat exchange and
the specific surface of phase contact are many times larger (345 and 130 times
respectively), which ensures a sharp reduction in desorption time. There are
1 figure and 2 tables.

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ACCESSION NR: AT4012706   S/2881/63/000/002/0005/0012   x

AUTHOR: Matveyev, B.I.; Fridlyander, I.N.; Agarkov, G.D.; Stepanova, M.G.; Vlasova, P.T.

TITLE: Properties and application of blanks made of sintered aluminum powder (SAP)

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spech*may*ye splavy*. Moscow, 1963, 5-12

TOPIC TAGS: powder metallurgy, aluminum powder, sintered powder, sintered aluminum powder, SAP, SAP blank

ABSTRACT: In a general review of the uses and properties of SAP, it is pointed out that heat-resistant deformed alloys of sintered aluminum powder at 350-500C are significantly stronger than standard deformed aluminum alloys. This is explained by the finely dispersed oxide phase uniformly distributed in the aluminum matrix. Parts made of SAP, whether from APS-1 or APS-2 powder, show corrosion resistance practically equal to that of ordinary aluminum. The technology of the briquetting, sintering and pressing of SAP is described. The following blanks are commonly made of SAP-1: rods and pipes up to 200 mm in diameter, sections up to 100 sq. cm and over, sheets 900 mm wide, up to 3 m in length

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ACCESSION NR: AT401270 6

and up to 0.8 mm thick, rivet wires, foil up to 0.03 mm thick, pressed blanks. SAP-2 is used for parts of the same type, only of lower workability. The fatigue strength of both SAP-1 and SAP-2 exceeds that of all aluminum alloys. Some representative data are tabulated. These metals may be soldered and welded, machined, finished, cut and pressed. The wall thickness and radii of the tubes which can be pressed from SAP are smaller, the lower the content of Al_2O_3 in the initial material. These features show that the existing opinion concerning the brittleness of sintered materials has nothing to do with SAP. It can be machined in the same way as common aluminum, and new fields of application are constantly opening. "The corrosion tests were carried out by V.S. Komissarova." Orig. art. has: 3 figures and 6 tables

ASSOCIATION: None

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: MM   NO REF SOV: 000   OTHER: 000

Card   2/2

ACCESSION NR: AT4012713   S/2981/63/000/002/0058/0063

AUTHOR: Kishnev, P. V.; Matveyev, B. I.; Zolotov, V. S.; Perevyazkin, L. S.

TITLE: Influence of the degree of deformation and the rate and temperature of pressing on the mechanical properties of pressed blanks

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*. Moscow, 1963, 58-63

TOPIC TAGS: powder metallurgy, pressed product, deformation, pressing temperature, pressing rate, aluminum powder

ABSTRAC : The flow process for manufacturing pressed powder products may be improved by taking into account the influence of the degree of deformation and rate and temperature of pressing. Proper choice of these parameters improves the quality of the surface and the mechanical properties of the pressed blanks. The present tests were performed under industrial conditions on existing equipment. The results show that increasing the degree of deformation (up to 85%) when pressing rods improves their ultimate strength and relative elongation: the strength does not change for degrees of deformation exceeding 85%. The pressing rate does not affect the mechanical properties of pressed blanks, but it does affect the quality of the surface. Burrs appear at low pressing rates. When the blanks are heated

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to 450-500C the quality of the blanks does not change. Higher temperatures, however, lower the ultimate strength and increase the relative elongation. For the best results, the degree of deformation should be at least 85%, the pressing rate should be above 8 m/min, blanks should be heated t. 450-500C, and prior to forming brickets the aluminum powder should be heated to 500-550C for at least 2-3 hours. "Ye. A. Kuznetsova, A. A. Gel'man and G. M. Bagnenko also took part in the work." Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 13Feb64

NO REF SOV: 000

ENCL: 00

OTHER: C00

Card 2/2

ACCESSION NR: AT4012716   S/2981/63/000/002/0078/0086

AUTHOR: Kishnev, P. V.; Matveyev, B. I.; Martynova, N. A.; Nomofilov, S. I.; Bazurina, Ye. Ya.; Shelemov, V. A.

TITLE: Properties and structure of wire made of SAP

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*. Moscow, 1963, 78-86

TOPIC TAGS: powder metallurgy, sintered powder, aluminum powder, sintered aluminum powder, SAP, SAP wire

ABSTRACT: Fastenings designed for use with heat-resistant materials such as SAP should have the same thermal properties. The authors therefore developed a technique for manufacturing SAP wire which can be used for rivets, for example, and studied its structure and mechanical properties. Grade PP-4 aluminum powder (chemical content: 4-5% Al_2O_3, 0.06% Fe, 0.26% fats, 0.016% moisture, the rest - aluminum) was used for manufacturing a test series of calibrated wire, gauge 3, 4 and 5 mm. This material has been found suitable for rivets. After drawing, the gauged wire of 3, 4 and 5 mm had a tensile strength of 25-30 kg, mm^2 at 20C and a

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ACCESSION NR: AT4012/16

relative elongation of 5.5 - 9%. ..t 500C the values were 4.7 - 7 kg/mm^2 and
6.5-10%, respectively. Wire of lower diameter has a higher strength and lower
relative elongation at room temperature. Pressed wire blanks with a diameter of
6 mm and gauged wire of 3, 4 and 5 mm made of grade APS-1 aluminum powder, contain-
ing 7% Al$_2$O$_3$ cannot be used as rivets due to cracks on the rivet heads. Annealing
of the wire lowers the tensile strength and increases the plasticity. A set of
rivets manufactured of SAP wire (made of grade PP-4 powder) was of high quality,
conforming to the requirements for mechanical properties and surface quality of
good rivets. "Ye. A. Kuznetsova, V. V. Marty*nov, M. V. Kiryushina and L. S.
Perevyazkin also took part in the work." Orig. art. has: 14 figures.

ASSOCIATION: None   /

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: MM   NO REF SOV: 000   OTHER: 000

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ACCESSION NR: AT4012727   S/2901/63/000/002/0087/0089

AUTHOR: Vlasova, P. T.; Matveyev, B. I.; Kishnev, P.V.; Stel'nashchuk, V. A.;
Anan'in, S. N.

TITLE: Manufacturing technology and properties of SAP foil

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2, Specheniy*ye splavy*.
Moscow, 1963, 87-89

TOPIC TAGS: aluminum alloy, sintered aluminum, aluminum powder, sintered
aluminum powder, SAP, aluminum foil, SAP foil, aluminum rolling, aluminum
tempering

ABSTRACT: It was found that SAP with 6-7% Al_2O_3 is best for the manufacture of a
quality SAP foil. Sheets 240 x 30 mm were obtained from Al powder in a hot briquet-
ting process with subsequent roasting and hot pressing. After exposure to 500 C
for one hour, 30-mm sheets were reduced to 5 mm in a 3- or 4-high mill, exposed
again to 500 C for 30 minutes, rolled to 2.5 mm, and roasted at 350 C for 2 hours.
Further processing consisted of cold rolling to 0.5 mm in a 2-high mill, cutting,
roasting at 350 C for 2 hours, and cold rolling to 0.05 mm in a 6-high mill. X-ray

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ACCESSION NR: AT4012717

examination showed no evidence of recrystallization at 500 C, and no appreciable microstructural change could be established with a microscope (x 500). It was concluded that prolonged tempering of the foil at 400 C very insignificantly reduces the ultimate strength, while tempering at 500 C for 250 hours reduces it by 4-5 kg/mm^2 at room temperature. Al$_2$O$_3$ contents of 9-10% produced high-mechanical properties, but the resulting material was difficult to deform. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 15Feb64   ENCL: 00

SUB CODE: ML   NO REF SOV: 000   OTHER: 000

Card 2/2

ACCESSION NR: AT4012718   S/2961/63/000/002/0090/0097

AUTHOR: Kishnev, P. V.; Gel'man, A. A.; Matveyev, B. I.; Zolotov, V. S.

TITLE: Pipe manufacturing from SAP

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*.
Moscow, 1963, 90-97

TOPIC TAGS: pipe, pipe manufacture, aluminum pipe, aluminum, sintered aluminum,
sintered aluminum powder, SAP, rolling mill

ABSTRACT: The process of manufacturing pipes from powdered SAP is described, and
the quality and structure of the products are evaluated. Figures on the thickness
of extruded, rolled, and drawn pipes are given. Circular and shaped pipes can be
made of SAP using common equipment. It is advisable to use (1) vertical and hori-
zontal hydraulic presses at 450-500C with a specific pressure up to 90 kg/mm^2 and
a rate of 1 m/sec, (2) cold mills for rolling pressed pipes and (3) chain draw
benches for sizing rolled pipes. The best combination of strength and elongation
was achieved with pipes made of aluminum powder with a composition of 6.5-7.5%
Al$_2$O$_3$. Repeated pipe pressing decreases the ultimate stress by 2-4 kg/mm^2 and in-
creases the relative elongation by 3%. Pipe block heating can be carried out in

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ACCESSION NR: AT4012718

induction furnaces. "L. S. Perevyazkin, M. D. Levitanskiy, N. D. Narodnyy, G. M. Bagnenko, B. Ye. Klemanov, and T. P. Prokushina took part in the work." Orig. art. has: 6 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: IE, MA   NO REF SOV: 000   OTHER: 000

Card 2/2

ACCESSION NR: AT4012719   S/2981/63/000/002/0098/0104

AUTHOR: Matveyev, B. I.; Khanova, I. R. Shchedrin, Ye. I.

TITLE: Techniques for stamping parts from SAP

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Spechenny*ye splavy*. Moscow, 1963, 98-104

TOPIC TAGS: powder metallurgy, sintered aluminum powder, sintered aluminum, aluminum powder, SAP, SAP pressing, SAP stamping, SAP forging

ABSTRACT: In comparison with the common stressed aluminum alloys, SAP has lower plasticity at room temperature. At 450-570C, however, it is quite suitable for pressure working. The present authors therefore investigated the possibility of both hammer forging and high temperature pressing for the manufacture of SAP parts of various types. Pistons were made on a hammer forge from either briquets, sintered blanks or pressed rods (all made from aluminum powder containing 7-10% Al_2O_3) and tested for their structure and mechanical properties. The best results were obtained with pressed rods. Briquets should not be used since, due to their low plasticity, it is impossible to obtain high-quality parts in open dies even if an aluminum shell is used. Parts made of sintered blanks containing not over 9% Al_2O_3 had the best mechanical properties. The successful manufacture of

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ACCESSION NR: AT4012719

compressor blades from heated Al powder containing 7-8% Al_2O_3 on a press is also described. "D. M. Likhosherstov, I. I. Shekhtman and N. N. Aper'yanova also took part in the work." Orig. art. has: 8 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 13Feb64

NO REF SOV: 000

ENCL: 00

OTHER: 000

Card   2/2

ACCESSION NR: AT4012724   s/2981/63/000/002/0135/0140

AUTHOR: Nikiforov, G. D.; Zhimyakov, S. N.; Matveyev, B. I.; Bazurina, Ye. Ya.

TITLE: SAP fusion welding

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2. Pressovanny*ye splavy*.
Moscow, 1963, 135-140

TOPIC TAGS: aluminum, sintered aluminum, aluminum powder, sintered aluminum
powder, SAP, aluminum welding, SAP welding, fusion welding, arc welding

ABSTRACT: The low susceptibility of SAP to welding interferes with its wider use
as a light, heat-resistant material. A variety of welding tests (submerged arc
welding with an AMg6 aluminum alloy filler rod, argon submerged arc welding with
a tungsten electrode) were conducted. It was concluded that SAP produced by the
common process is unfit for fusion welding but that modified SAP, developed by
the authors, compares well with other aluminum alloys in both argon- and submerged
arc fusion welding. The ultimate strength of the welds obtained amounts to 24-28
kg/mm^2 at room temperature and to 5-6 kg/mm^2 at 500C. A better manufacturing
technology and welding procedure may bring the former figure up to 30-35 kg/mm^2.
Prolonged treatment of the welds at 400-500C has no effect on their ultimate
strength at room temperature. Orig. art. has: 7 figures and 2 tables.

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ACCESSION NR: AT4012724

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: ML   NO REF SOV: 000   OTHER: 000

Card 2/2

ACCESSION NR: AT4012727   S/2961/63/000/002/0153/0159

AUTHOR: Davy...dova, N. A.; Kuznetsova, Ye. A.; Matveyev, B. I.; Gel'man, A. A.

TITLE: Treatment of SAP (sintered aluminum powder) waste

SOURCE: Alyuminiyevy*ye splavy*. Sbornik statey, no. 2, Spechenny*ya splavy*. Moscow, 1963, 153-159

TOPIC TAGS: powder metallurgy, aluminum, aluminum powder, sintered aluminum, sintered aluminum powder, aluminum powder waste, SAP

ABSTRACT: SAP waste is formed during the production of blanks, so that utilization of this waste is very important for lowering the cost. The authors studied different methods for treating SAP waste. Pressed or rolled packs of SAP waste can be made with minimal losses. For better results, however, the waste should be disintegrated. Hammer mills cannot be used as they only dent the metal. The authors found that milling of SAP into shavings 0.2-0.5 mm thick and 1-5 mm wide with a density of 0.3-0.5 g/cc and further disintegration in mills leads to good quality material having a 15.2% aluminum oxide content. The further processing of waste (stamping temperature, pressure, etc.) is also of great importance. Increasing the temperature, for instance, from 450 to 580C leads to an increase in ultimate strength from 36 to 39 kg/sq mm, and the relative elongation increases proportion-

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ACCESSION NR: AT4012727

ately. Higher temperatures lead to better sintering and redistribution of aluminum oxide. The best temperature for heating blanks, therefore, is 550-580C. By following the requirements listed in the article, secondary SAP can be produced having the same quality as primary SAP. Orig. art. has: 1 figure and 5 tables.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 13Feb64   ENCL: 00

SUB CODE: ML   NO REF SOV: 000   OTHER: 000

Card   2/2
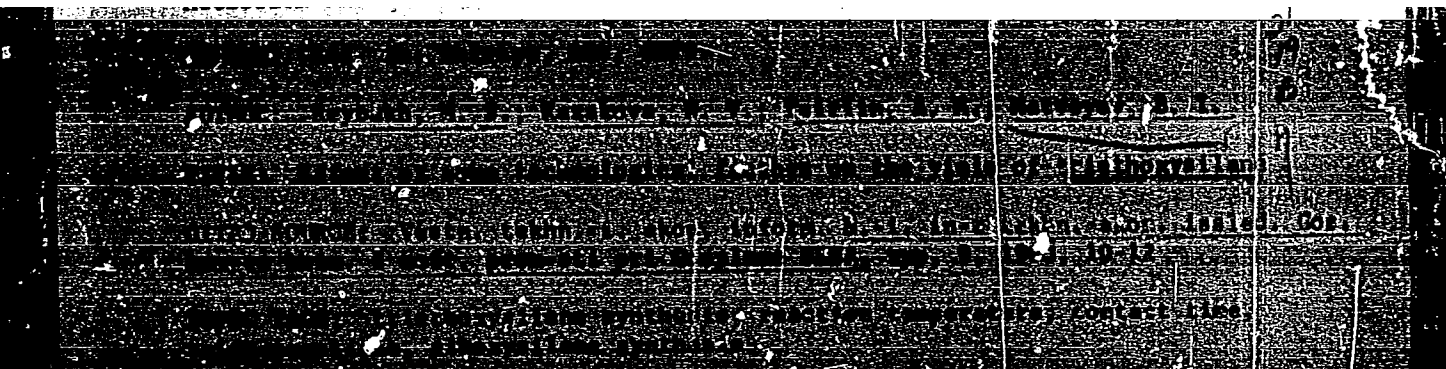
ACCESSION NR: AT4037674   S/2981/64/000/003/0397/0404

AUTHOR: Matveyev, B. I.; Dzyubenko, M. I.

TITLE: Effect of ingot homogenizing temperature on the variaticn in mechanical properties of sections from alloy V95

SOURCE: Alyuminiyevy*ye splavy*, no. 3, 1964. Deformiruyemy°ye splavy* (Malleable alloys), 397-404

TOPIC TAGS: aluminum alloy, alloy V95, alloy mechanical property, large pressed section, ingot homogenizing, homogenizing temperature, alloy microstructure, section mechanical property

ABSTRACT: Ingots (diameter 315 or 200 mm) of alloy V95 (1.67% Cu, 0.24% Mn, 0.28% Fe, 0.23% Si, 6.42% Zn, 1.95% Mg, 0.15% Cr, 0.3% Si) were homogenized at 445 ± 5C for 24 hours or 480C for 36 hours. Rods (diameter 250 or 170 mm) were pressed from the larger ingots, sections from the smaller ones (deformation near 80%, 400-410C). The ingots and pressed shapes were then subjected to mechanical tests. The tabulated results

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ACCESSION NR: AT4037674

indicate that homogenizing at high temperature does not produce technically significant variations in relative elongation, tensile strength or yield point, either transversely or longitudinally, but does produce a more homogeneous micro-structure and increase the fatigue limit (796 cycles to rupture for control as compared to 1149 transversely and 1190 lengthwise for material homogenized at 480C). "N. M. Edel'man also took part in the work." Orig. art. has: 4 tables and 2 illustrations.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 04Jun64

NO REF SOV: 001

ENCL: 00

OTHER: 000

Card 2/2

L 40950-66   EWP(e)/EWT(m)/EWP(v)/T/EWP(t)/ETI/EWP(k)   IJP(c)   JD/HM/HW

ACC NR: AT6024936 (A,N)   SOURCE CODE: UR/2981/66/000/004/0238/0253

AUTHOR: Kovrizhnykh, V. G.; Vorob'yev, A. A.; Ponogaybo, Yu. N.; Tsabrov, N. D.;
Matveyev, I. I.

ORG: non.

TITLE: Preparation of weldable sheets of SAP-1 alloy by coil rolling

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy
(Heat resistant and high-strength alloys), 238-253

TOPIC TAGS: sintered aluminum powder, hot rolling, cold rolling, sheet metal

ABSTRACT: The purpose of the work was to determine the feasibility of preparing thin
sheets 0.6 to 3 mm thick of industrial dimensions (1000-1400 mm wide and 3500-7000 mm
long) from fusion-welded SAP-1 material (a sintered aluminum powder material) by coil
rolling on existing industrial equipment, and also to study the mechanical properties
and structure of hot- and cold-rolled sheets in relation to the conditions of deforma-
tion and annealing. It was found possible to produce such sheets by using a billet
made by stamping on a vertical hydraulic press, and to weld them by fusion. Vacuum
annealing can be replaced by long high-temperature annealing without vacuum for the
purpose of adequately degassing the briquet and imparting weldable properties to the
SAP-1 material. In order to obtain the maximum strength characteristics at high tem-
peratures, the sheets should be produced only by hot rolling. If thin sheets cannot

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L 46950-66

ACC NR: AT6024936

be produced by hot rolling alone, the cold rolling should be carried out with a mini-
mum degree of deformation.   Orig. art. has: 6 figures and 3 tables.

SUB CODE: 13/ SUBM DATE: none

Card 2/2 afs

ACC NR: AP6036886   (A)   SOURCE CODE: UR/0122/66/000/011/0046/0047

AUTHOR: Matveyev, B. I. (Candidate of technical sciences); Yegorov, B. G. (Engineer); Shchedrin, Ye. I. (Engineer); Vlasova, P. T. (Engineer)

ORG: none

TITLE: High-speed engine pistons from sintered aluminum alloy powder (SAP)

SOURCE: Vestnik mashinostroyeniya, no. 11, 1966, 46-47

TOPIC TAGS: high speed engine, piston, piston fabrication, sint red aluminum alloy powder, sintered alloy piston, piston forging, piston property/SAP-1 alloy, SAP-2 alloy

ABSTRACT: Since the AK4 wrought aluminum alloy is not sufficiently heat resistant to be used as material for pistons in high-speed engines, the SAP-1 ($6-11\%$ Al_2O_3) and SAP-2 (10% Al_2O_3) alloys were tested. The pistons were forged from sintered compacts or extruded bars and preheated up to $540 \pm 10C$ for 3 hr. The pistons were found to have good quality and a fine-grained structure without visible defects. At room temperature the pistons made from compacts had a tensile strength of $34-36$ kg/mm^2 and an elongation of $2-4.5\%$, and those made from extruded bars had a tensile strength of $25-28$ kg/mm^2 and an elongation of $9-10\%$. At $500C$, the pistons made from compacts had a tensile strength of $8-8.5$ kg/mm^2 and an elongation of $1.5-2\%$, and those made from extruded bars had a tensile strength of

Card 1/2   UDC: 621.762.5:669.71]:621.43-242

ACC NR: AP6036886

7—8 kg/mm^2 and an elongation of 4%. The mechanical properties were not affected
by a test run for 300 hr at the temperature of operation. Orig. art. has: 2 figures
and 3 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001/
ATD PRESS: 5108

Card 2/2

Matveyev, A.D.

BOOK EXPLOITATION   SOV/3955

Moscow. Vysshee tekhnicheskoye uchilishche

Mashiny i tekhnologiya obrabotki metallov davleniyem; sbornik statey (Machinery and Processes for the Pressworking of Metals; Collection of Articles) Moscow, Mashgiz, 1960. 296 p. (Series: Its: Trudy, vyp. 98) Errata slip inserted. 3,500 copies printed.

Ed.: A.I. Zimin, Doctor of Technical Sciences, Professor; Ed. of Publishing House: O.V. Chernyak; Tech. Ed.: T.P. Ladonolova; Managing Ed. for Literature on Heavy Machine Manufacturing (Mashgiz): I.M. Gelovin, Engineer.

PURPOSE: This collection of articles is intended for workers in scientific research institutions and in die-forging shops, and for engineering students.

COVERAGE: The book contains papers from the Department of Machines and Processes for the Pressworking of Metals of the MVTU (Moscow High-Technical School imeni N.E. Bauman). The papers deal with theoretical and practical aspects of metal pressworking and with the theory and practice of forging machine and press design. These papers deal with machine hydraulics (selection of drives of presses, pressure in cylinders). A design of a hydraulic power-screw type "press-hammer," which can work as a percussion press or forging press, is presented. Problems of the theory of plastic deformation in upsetting, upsetting, and forming are also analyzed in reference cards (Nos. 33 to 49) are appended to explain problems pertaining to the state of stress of plastically deformed metal. These cards are the continuation of cards presented in collection No. 79 of the MVTU, 1957. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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S/182/60/000/001/003/008
A161/A029

AUTHORS: Matveyev, A.D.; Krauze, A.R.; Sal'man, M.Yu.

TITLE: Stamping Bevel Gears in Horizontal Forging Machine

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 1, pp. 14 - 17

TEXT: Production of gears by stamping is a new gear-making method; gears with a hub and with a short shank are stamped on frictional and crank-type forging-stamping presses, and the cogged die inserts shaping the gear teeth are made in a master die. The present article gives detailed information on experiments with a horizontal forging machine, abbreviated "ГКМ" (GKM), carried out by Omskiy mashinostroitel'nyy institut (Omsk Machine Building Institute) at a Siberian machine works. The long-shank gear produced in experiments is shown in drawing (Fig. 1) and is a part of ДТ-54 (DT-54) tractor. The work process on the GKM (design is not described) is analogous to the process on forging-stamping presses. cutting blanks with shears; heating blanks in a mazout firing furnace; stamping on the GKM in a three-cavities die; pickling. The die (Fig. 3) has three cavities, or parts: "gathering"(nabornyy); final; trimming. The cogged insert is shown in photograph (Fig. 5) (forged blank and finished insert); the master die

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MATVEYEV, R. N.

MATVEYEV, I. P. - "A study . . . .
The Changed-look . . . . ." . . . .
Geology Faculty. . . . ., 55. (Dissertation . . . .
Candidate of Geological-mineral . . . . Sciences.

So; Knizhnaya Letopis', No 2, 56.

MATVEYEV, B.K.

Electrical method of determining the direction and speed of movement of underground waters through single boreholes (the charged body method). Vest. Mosk. un. Ser. biol. pochv., geol., geog. 12 no.4: 167-177 '57. (MIRA 11:5)

1. Kafedra geofiziki Moskovskogo gosudarstvennogo universiteta.
(Water, Underground) (Hydrology--Research)

SGV/49-58-9-9/14

AUTHOR: Matveyev, B. K.

TITLE: Contribution to the Technique of Determining the Speed of an Underground Flow Along one Bore Hole (K metodike opredeleniya skorosti podzemnogo potoka po odnoy skvazhine)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 9, pp 1127-1132 (USSR)

ABSTRACT: In electric prospecting a well known method is that of the charged body which is used for determining the direction and speed of movement of underground waters along one bore hole. The method consists of the following: a certain amount of common salt in a porous bag is introduced into the well which is drilled down to the water bearing horizon. The salt solution will be carried away by the underground flow into the water bearing stratum and form there a region into which electrolyte penetrates, i.e. a zone of high electric conductivity. If one of the electrodes of the feeding circuit is lowered into the well and the other is fitted at a distance as large as possible (1 km and more), an electric field will form around the well due to the effect of the "charged tubes" and the electrolyte zone. If the salt is continuously fed in, the

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Contribution to the Technique of Determining the Speed of an
Underground Flow Along One Bore Hole

dimensions of this zone will increase continuously in the
direction of flow and correspondingly the electric field
in the ground will change.   These changes can be observed
at the ground surface by tracking of closed equipotential
lines. The isolines of the potential recorded at various
times are displaced relative to each other, stretching
towards the same side as does the zone of high conductivity.
Obviously, the direction of the displacements of the
isolines indicates the direction of the underground flow
and the speed of displacement will depend on the speed of
movement of the underground waters.   Consequently, the
problem is reduced to determining the dependence of the
displacement of the equipotential lines on the length to
which the salt-water conductor penetrates into the water
bearing stratum.   In solving the problem of determining
the speed of flow, the electrolyte zone and the sunk pipe
are considered by many authors (Refs 1-3) as being
uniformly charged equipotential conductors.   The authors
of this paper argue that in using the method of the charged
Card2/5 body for determining the direction and the speed of

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Contribution to the Technique of Determining the Speed of an
Underground Flow Along One Bore Hole

movement of underground waters along a bore hole, it is
necessary to take into consideration the fact that generally
the electrolyte zone will be a non-equipotential conductor.
The non-equipotentiality of the charged electrolyte zone
is the cause of gradual attenuation and cessation of the
displacements of the equipotential lines recorded at the
ground surface.   In order to avoid errors in determining
the speed of the flow, the plotting of graphs of the
dependence of the displacement of the isolines on the time
is recommended (Fig.3).   The instant of damping can be
clearly seen on the graphs; the left branches of the
displacement graphs can be utilised for determining
approximately the speed of flow.   As a magnitude of the
isoline displacements it is best to take the direct
displacement of the islines along a beam coinciding with
the evident direction of flow, relative to the "basis
isoline" recorded immediately after feeding in the electro-
lyte.   The author does not recommend using the displacement
of the centres of the isolines when determining the speed of
Card3/5 flow since,due to the non-equipotential nature of the

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Contribution to the Technique of Determining the Speed of an
Underground Flow Along One Bare Hole

electrolyte zone and the disturbing influence of the tubes,
the physical meaning of the centre of the equipotential
line as the epicentre of the charged conductor ceases to
exist.   In determining the speed of underground flow it is
necessary to take into consideration the influence of the
lowered pipes and of the column of salt water in the well.
The influence of these factors manifests itself in a
reduction of the displacements of the isolines of the
potential recorded near to the well as compared to the
displacements of distant isolines recorded at the same time.
If the equipotential lines are located at optimum distances
from the bore hole, exceeding in magnitude 1.0 to 1.5 times
the depth of the underground flow, the influence of the
lowered pipes will be reduced to zero.   This is confirmed
by numerous field tests carried out by the Geophysics
Chair of the Moscow State University.   For determining the
speed of flow along isolines of a small radius, it is
obviously necessary to introduce appropriate corrections
which can be calculated by means of Eq.(10), p 1130, which
is the final formula for calculating the potential at the

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SOV/49-58-9-9/14

Contribution to the Technique of Determining the Speed of an
Underground Flow Along One Bore Hole

       ground surface.   Acknowledgments are made to
       A. I. Zaborovskiy for his useful comments.
       There are 3 figures, 1 table and 9 references, all of
       which are Soviet.

ASSOCIATION: Permskiy gosudarstvennyy universitet im.A.M.Gor'kogo
       (Perm' State University imeni A. M. Gor'kiy)

SUBMITTED: June 12, 1957

Card 5/5

AUTHOR: Matveyev, B. K.   SOV/132-58-12-7/14

TITLE: The Definition of the Direction and the Speed of the Flow of
                 Underground Waters by Means of One Bore Hole (Opredeleniye
                 napravleniya i skorosti potoka podzemnykh vod po odnoy
                 skvazhine)

PERIODICAL: Razvedka i okhrana nedr, 1958, Nr 12, pp 44-47 (USSR)

ABSTRACT: The author describes a geophysical method called "metod
                 zaryazhennogo tela (MZT)" (the method of a loaded body)
                 which is used to determine the speed and the direction of
                 the flow of an underground stream by using one bore hole
                 A bag of kitchen salt is lowered into the bore hole which
                 ends in the stream. The dissolved salt carried away by the
                 stream into a water bearing layer, creates a zone of re-
                 latively high electric conductivity - the electrolyte zone.
                 If one of the electrodes of the feeding chain is lowered
                 into the hole and the other placed as far away as possible,
                 an electric field will be generated around the bore hole,
                 caused by the action of loaded drive-pipes (or of the column
                 of salty water in the hole) and by the electrolyte zone in
                 the water-bearing layer. The concentration of the electro-
Card 1/2   lyte will be increased by a continuous addition of salt in

SOV/132-58-12-7/14

The Definition of the Direction and the Speed of the Flow of Underground
Waters by Means of One Bore Hole

the direction of the stream. The changes in the electric
field are detected by observing the variation in the closed
equipotential lines. The equipotential lines are dis-
placed and stretched in the direction of the extension of
the $_z$one of high conductivity. The direction of the shift-
ing of the isolines will thus indicate the direction and
speed of the stream. The theory and method of MZT were
elaborated by V.S. Borkov, A.M. Pylayev, A.S. Semenov, A.M
Gorelik and A.I. Zaborovskiy. On behalf of the Chair of
Geophysics of Moscow State University the method was further
developed by the author under the supervision of A.I. Za-
borovskiy and A.A. Ogil'vi. The graphical and analytical
solution of the problem is described in detail.
There is 1 graph, 1 diagram and 4 Soviet references.

ASSOCIATION: Permskiy Gosuniversitet (The Perm' State University)

Card 2/2

SOV/49-59-10-9/19

AUTHORS: Matveyev, B. K., and Shkabarnya, N. G.

TITLE: Electro-Profiling Above a Sphere Situated Near a
           Contact of two Media

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya
            1959, Nr 10, pp 1492-1499 (USSR)

ABSTRACT: A method is described where an approximate solution is
           found of a problem of disturbances of an electric
           field caused by a sphere which is situated at a
           contact of two media of different resistances. This
           solution is derived from a distribution of the
           potential of the point-electrode A in the space
           consisting of two media, one or them containing a
           sphere. The current from A is denoted by I; the
           specific resistances of both media and of the sphere
           are ρ_1, ρ_2, and ρ_0 respectively. The electrode A
           is placed in the first medium at the distance L from
           the contact and at d_1 from the centre of the sphere
           positioned in the second medium (Fig 1). Then the
           required potential functions in the first (U_1) and
           second (U_2) medium will be expressed as Eqs (1) and
Card 1/2   (2) which become Eqs (4) and (5) if functions U', U"

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Electro-Profiling Above a Sphere Situated Near a Contact of two Media

and U''' (Eq (3)) determining the effect of the sphere
are considered. The resistivity of a medium can be
defined in the form of Eq (21), which, in the case of a
three-electrode assymetrical profile, can be shown as
Eqs (22), (23) and (24). These correspond to three
cases: a - no sphere present, b - a sphere is positioned
in a medium with the receiving electrode, and B - both
the transmitting and receiving electrodes and the sphere
are placed in the same medium. The graphs based on Eqs
(22) to (24) are illustrated in Figs 2 to 4. Figs 2
and 3 represent the curves of ρ_k for a three-electrode
method, and Fig 4 represents the curves for a four-
electrode method. There are 4 figures and 4 Soviet
references.

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm State
              University)

SUBMITTED: June 10, 1958

Card 2/2

MATVEYEV, B.K.

Considering the effect of metal casings on the results of
prospecting by the charged body method. Razved. i okh. nedr
25 no.12:39-42 D '59.   (MIRA 13:6)
          (Electric prospecting)

OGIL'VI, A.A.; MATVEYEV, B.K.; SHKABARNYA, N.G.

Electric investigation of the Kungur karst cave. Vest.Mosk.un.
Ser.4: Geol. 15 no.3:71-77 My-Je '60.   (MIRA 13:8)

1. Kafedry geofizicheskikh metodov issledovaniya Moskovskogo
i Permskogo universitetov.
                    (Kungur cave)

32699
S/049/61/000/012/003/009
D216/D303

$24.2400\ (1149, 1160, 1482)$

AUTHOR: Matveyev, B.K.

TITLE: The electric field of a point source in a multilayer-
                 ed medium with a spherical inclusion.

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofiziches-
                 kaya, no. 12, 1961, 1784 - 1791

TEXT: In this paper, the author uses the method of multiple
mirror reflections previously employed by him with N.G. Shkabarnya (Ref.
3: Izv. AN SSSR, Ser. geofiz. no. 10, 1959.) for the simpler problem
with the sphere near the junction of two media, and applies it to the
more general case. The application of the results to electrical survey-
ing is demonstrated. After restating the relations developed in Ref. 3
(Op. cit.) for the potentials in the two media, he considers the case
of a sphere located near a layer, bounded by parallel planes, which se-
parated two different media. By analogy with Ref. 3 (Op. cit.) the appro-
priate fictitious sources are introduced, and the additional potential
functions due to the presence of the sphere are included. Then, for the

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case in which the actual source, emitting current I, is situated in the upper medium (specific electrical resistance ρ_o), at a distance L from the upper surface of the separating layer (ρ_1) and the sphere (ρ) radius a is in the lower medium (ρ_2), with its center distant d from the source, the expression for the potential in the upper medium

$$U_I = \frac{I\rho_o}{4\pi} \left\{ \frac{1}{R_o} + \frac{k_{o1}}{R_o} + \sum_{n=o}^{\infty} P_n \left[\frac{P_n(\cos\theta)}{d^{n+1}} + k_{o1} \frac{P_n(\cos\theta_o)}{d_o^{n+1}} \right] \right. $$

$$+ k_{12}(1 - k_{o1}^2) \sum_{i=1}^{\infty} (-1)^{i+1} (k_{o1}k_{12})^{i-1} \left[\frac{1}{R_i} + \sum_{n=o}^{\infty} P_n \cdot \right.$$

$$\left. \left. \frac{P_n(\cos\theta_i)}{d_i^{n+1}} \right] \right\}. \tag{5}$$

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is derived from the field of the real source and of the fictitous sour-
ces situated at distances $L + 2ih$ under the layer, where h is the width
of the layer. Here $k_{01} = P_1 - P_0/P_1 + P_0$; $k_{12} = P_2 - P_1/P_2 + P_1$;

$P_n = a^{2n+1}/\ell^{n+1} \cdot (\rho - \rho_0)^n / (n+1) \rho + n\rho_0$ and the P_n are Legendre

polynomials expressing the effect of the sphere; d_i are the distances
of the fictitious sources situated below the layer from the center of
the sphere; $R_0' = \sqrt{r^2 + s^2}$; $R_0 = \sqrt{r^2 + (2L - s)^2}$; $R_1 = \sqrt{r^2 + [2(L+ih)-s]^2}$

where the (r,s) coordinate system has its origin at the source with the
s-axis normal to the planes of separation of the media, and the R's re-
present distances from the point of observation to the respective sour-
ces; $\theta_i(\theta)$ are the angles between the directions of the $d_i(d)$ and 1

from the sphere. Similarly, for the layer the potential is written

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$$U_{11} = \frac{Ip_1}{4\pi}(1 - k_{01})\left\{\sum_{0}^{\infty}(-1)^s(k_{01}k_{12})^s\left[\frac{1}{R_1'} + \frac{k_2}{R_1''} + \right.\right.$$

$$\left.\left. + \sum_{0}^{\infty}P_n\frac{P_n(\cos\theta_1)}{d_1^{n+1}} + k_{12}\sum_{0}^{\infty}P_n'\frac{P_n(\cos\theta_1)}{d_1^{n+1}}\right]\right\}$$ (6)

where $R_1' = \sqrt{r^2 + (2ih + s)^2}$; $R_1'' = \sqrt{r^2 + [2L + 2(i+1)h - s]^2}$

represent the distances of the fictitious sources situated above and
below the layer respectively from the point of observation in the lay-
er; $P_n' = a^{2n+1}/l_2^{n+1}$. $(\rho - \rho_1)n / (n+1)\rho + n(\quad,$ and l_2 is the dis-
tance from the sphere to the point of observation; d_1' are the distances
of the fictitious sources situated above the layer from the center of
the sphere and θ_1' are the angles between d_1' and l_2. Finally, for the

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lower medium, the potential is

$$U_{III} = \frac{I\rho_2}{4\pi} (1 - k_{01})(1 - k_{12}) \sum_{i=0}^{\infty} (-1)^i (k_{01}k_{12})^i \left[\frac{1}{R_i'} + \sum_{n=0}^{\infty} P_n^{\infty} \frac{P_n(\cos\theta_i')}{d_i'^{\,r+1}} \right] . \qquad (7)$$

with $P_n^{\infty} = a^{2n+1}/l_3^{n+1} \cdot (\rho - \rho_2)n / (n+1)\rho + n\rho_2$; l_3 is the distan-
ce from the center of the sphere to the point of observation medium;
θ_i' are the angles between d_i' and l_3. The author then considers a case
of practical interest in which the earth is represented as a two-layer-
ed medium with horizontal planes of separation, above which is an infi-

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nite extent of air. The specific electrical resistances of the upper and lower layers are ρ_1 and ρ_2 and the thickness h and ∞ respectively. In the lower medium is a sphere at depth H with specific resistance ρ and radius a. A point source is at the earth-air boundary, distant d from the center of the sphere, emitting current I. Then from Eq.(6), putting L=0, $\rho_0 = \infty$, the potential at the earth's surface is found, and the apparent resistance of the layered medium is shown to be

$$
\rho_k = \rho_1 \left\{ 1 + 2 \sum_{i=1}^{\infty} \frac{k_{12}^i r^3}{[r^2 + (2ih)^2]^{3/2}} + \sum_{i=0}^{\infty} \sum_{n=0}^{\infty} \frac{a^{2n+1} i}{i^{n+2}} \frac{n(n+1)(\rho - \rho_0) r^3}{[(n+1)\rho + n\rho_0]} \times \right.
$$

$$
\left. \times \left[k_{12}^i \frac{I P_n (\cos \theta_i) - d_i P_{n+1} (\cos \theta_i)}{d_i^{n+1} \sqrt{r^2 + (2ih)^2}} + k_{12}^{i+1} \frac{I P_n (\cos \theta_i) - d_i P_{n+1} (\cos \theta_i)}{d_i^{n+1} \sqrt{r^2 + (2ih)^2}} \right] \right\} . \quad (9)
$$

This is used to calculate curves of the resistance profile for some typical cases. The author thanks A.I. Zaborovskiy and N.G. Shkabarnya.

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There are 6 figures and 3 Soviet-bloc references.

ASSOCIATION: Permskiy gosudarstvennyy universitet (Perm State University)

SUBMITTED: February 17, 1961

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MATVEYEV, B.K.; CHUMAKOVA, F.N., red.'zd-va; IYERUSALIMSKAYA, Ye.,
tekhn. red.

[Geophysical methods of studying the movement of nder-
ground waters] Geofizicheskie metody izucheniia dvizheniia
podzemnykh vod. Moskva, Gosgeoltekhizdat, 1963. 132 p.
                                        (MIRA 16:9)
            (Water, Underground)
    (Prospecting—Geophysical methods)

MATVEYEV, Boris Kon;tantinovich.

[Methods for the graphic plotting of the curves of
electric sounding] Metodika graficheskogo postroeniia
krivykh elektricheskikh zondirovanii. " .'.T`, Nedra.
1964. 70 p. ___ [Album of combined transferring sheets
and nomograms for plotting the curves of electric sound-
ing] Al'bom svodnykh palevok i nomogramm dlia grafiche-
skogo postroeniia krivykh elektricheskikh zondirovanii.
46 1.
                                           (MIRA 17:7)

MAKSIMOVICH, G.A., prof., red.; BALKOV, V.A., dots., red.;
    VASIL'YEV, B.V., dots., red.; GORBUNOVA, K.A., dots.,
    red.; MATVEYEV, B.K., dots., red.; MIKHAYLOV, G.K.,
    inzh., red.; OBORIN, V.A., dots., red.; PECHERKIN, I.A.,
    dots., red.; STARTSEV, V.S., dots., red.; SHIMANOVSKIY,
    L.A., inzh., red.

    [Methods for studying karst; transactions] Metodika izu-
    cheniia karsta; trudy. Perm', Permskii gos. univ.
    Nos. 2, 4, 5, 10. 1963.   (MIRA 17:12)

    1. Vsesoyuznoye soveshchaniye po metodike izucheniya
    karsta.

MATVEYEV, B.M.

S/030/62/000/006/002/007
I023/I223

AUTHOR: Matveyev, B.M.

TITLE: Magnetic investigations on the schooner "Zariy" (1960-61
            expedition)

PERIODICAL: Akademiya nauk SSSR. Vestnik, no. 6, 1962, 37-40

TEXT: The voyage of the non-magnetic schooner "Zariy" between October
4th, 1960 and October 18th, 1961 is described. The total weight of magnetic
materials (electric and diesel motors, generators, radio and electronic
apparatus, etc.) is only several percent of the weight of magnetic materials
in an ordinary ship. The measuring instruments are at a large distance from
the magnetic materials, so that the accuracy of the measurements is not
influenced by their presence. The horizontal and vertical components of the
geomagnetic field and the magnetic course of the ship were measured by a three-
component MГ-45 (MG-45) magnetometer. The total geomagnetic field was
measured by a proton magnetometer ПM-1 (PM-1). A differential selsyn was
continuously recording the declination. The continuous recording of all magnetic

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Magnetic investigations...

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ta made it possible to discover a number of magnetic anomalies, which were not uncovered before because of measurements only at discrete points. A large part of the measurements was made in the southern hemisphere. The total length of the voyage was 34,000 nautical miles. Magnetic anomalies in the Pacific, Atlantic and Indian oceans were found in regions of raising of the sea ground. The magnetic declination is of the order of 2-3° in the regions of the magnetic anomalies, and the geomagnetic field changes these by 5-20 moe. A very peculiar anomaly was discovered in the Bering Sea near the Pribylov islands: the magnetic declination changes by 5-10°, and the horizontal and vertical components by 20-50 moe at distances of 500-1000 m. The anomaly occupies an area of 300 miles. The data collected during the voyage are now analysed in detail. There are 2 figures.

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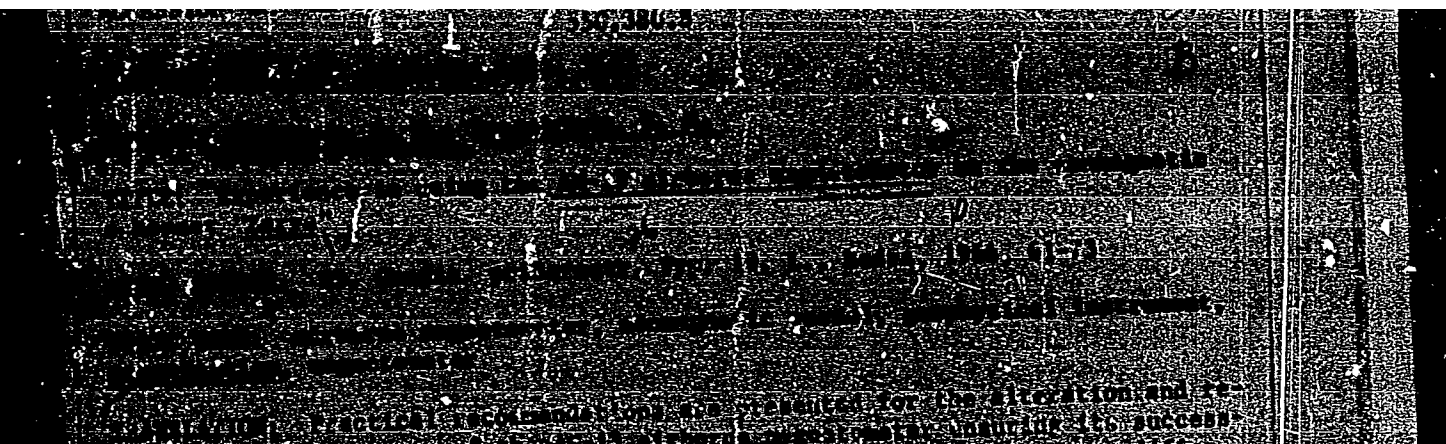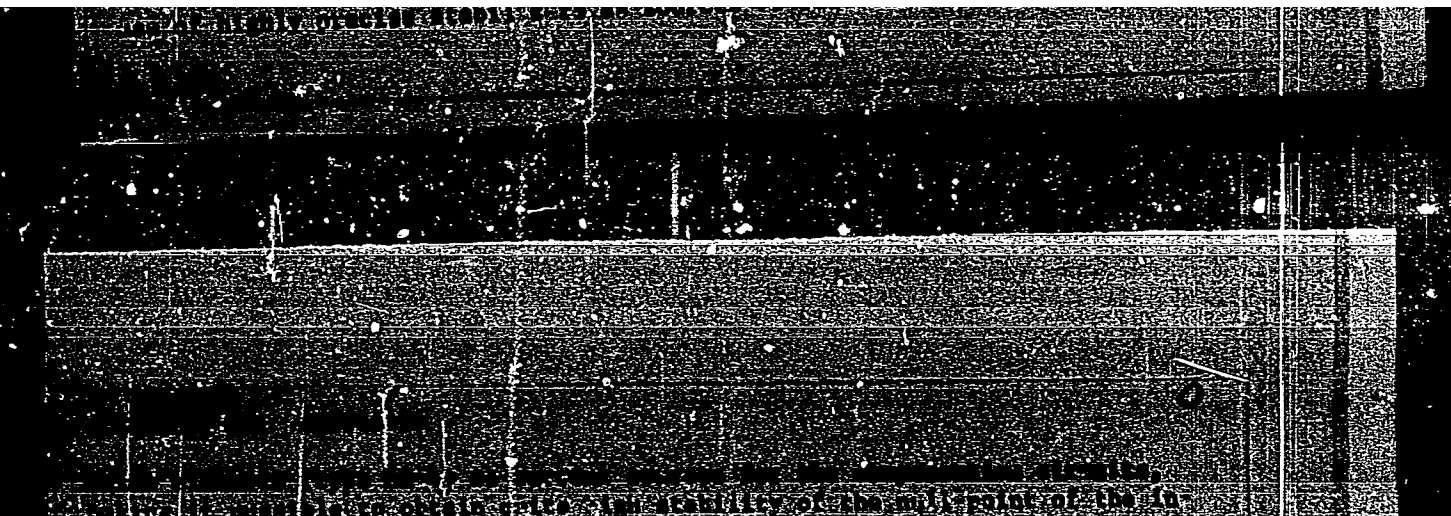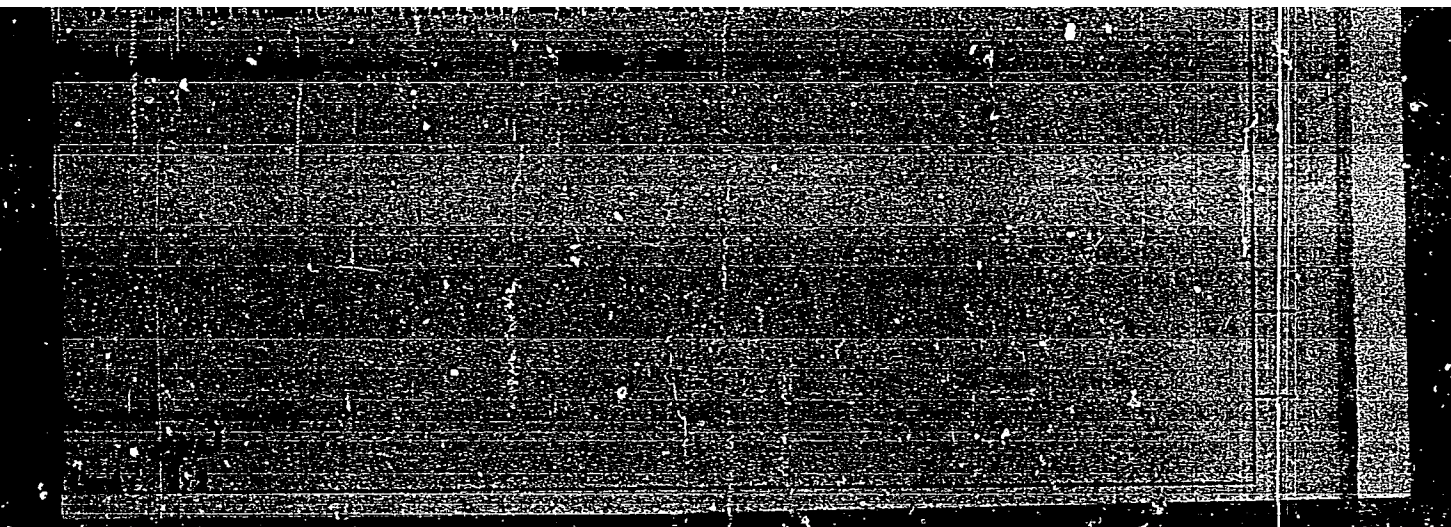
VOROPAY, P.I., inzh.; KHAYKIN, A.I., inzh.; MATVEYEV, B.M., mekha. k

Effectiveness of the humidification of air entering a piston-type compressor. Prom. energ. 19 no.11:26-30 N '64.

(MIRA 18:1)

L 07494-67   EWT(1)/FCC   GW/GD

ACC NR: AT6021015   (N)   SOURCE CODE: UR/0000/65/000/000/0076/0079

AUTHOR: Matveyev, B. M.

ORG: none

TITLE: Secular variation in the Pacific Ocean based on observational data taken aboard the schooner Zarya

SOURCE: AN SSSR. Institut fiziki Zemli. Nastoyashcheye i proshloye magnitnogo polya Zemli (The present and past of the earth's magnetic field). Moscow, Izd-vo Nauka, 1965, 76-79

TOPIC TAGS: geomagnetic field, geomagnetic measurement, secular variation, geomagnetic ship, oceanographic ship

ABSTRACT: Between 1960 and 1963 the nonmagnetic schooner Zarya took measurements of the geomagnetic field on the waters of the Pacific Ocean. During this period the schooner covered more than 69,000 nautical miles with continuous observations. A comparison of these observations with those from the ships Galiley and Karnegi made it possible to determine the total changes of the magnetic element. This article gives the results of deriving the total secular variation for the Pacific Ocean. The total secular variation was derived for the periods 1906—1962, 1916—1962, and 1920—1962 and charts of isoporic lines were compiled. It was found that in regions where the secular variation is small, the difference between the charts of the total

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secular variation and the isoporic charts lie within 0°5 with respect to D and 500 γ
with respect to force. In regions of the foci of the secular variation these differ-
ences reach 1°.5—2°.0 with respect to D (region of the near-polar focus) and
1200—1500 with respect to T (region of the focus southwest of South America). The
author points out in conclusion that it was not his purpose to give the distribution
of the secular variation for the entire Pacific Ocean but to present the total changes
of magnetic elements in regions where the schooner Zarya worked for the last three
years. The constructed charts permit reducing the observations of the ships Galiley
and Karnegi to the modern epoch and to use them together with the results from the
Zarya for compiling modern magnetic charts of the Pacific Ocean. Orig. art. has:
2 figures.

SUB CODE: 08/ SUBM DATE: 21Sep65

Card 2/2

LINDENBAUM, V.I.; MATVEYEV, B.N.; SHEVAKIN, Yu.F.

Determining the angle of groove taper filling during the hot pilgrim mill rolling of tubes. Izv. vys. ucheb. zav.; chern. met. 8 no.7:95-98 '65.

(MIRA 18:7)

1. Moskovskiy institut stali i splavov.

SHEVAKIN, Yu. P., doktor tekhn. nauk; RYTIKOV, A. M., inzh.;
    KASATKIN, N. I., inzh.; MATVEYEV, B. N., inzh.

    Determining reductions in the cold rolling of pipe. Sbor. Inst.
    stali i splav. no.40:413-421 '62.   (MIRA 16:1)

        (Pipe mills)   (Deformations(Mechanics))